

Amendments to The Claims

The following listing of claims replaces all prior versions and listings of the claims in this application.

Listing of the Claims

1-193. (Cancelled)

194. (Currently amended) An isolated heteromeric receptor ~~and comprises~~ comprising at least one T1R2 polypeptide and at least one T1R3 polypeptide, wherein said T1R2 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 10, (ii) encoded by a nucleic acid sequence comprising a nucleic acid that hybridizes to SEQ. ID. NO: 10 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS, or (iii) a T1R2 polypeptide possessing at least 90% sequence identity to the T1R2 polypeptide of SEQ. ID. NO: 6;

~~and~~ wherein said T1R3 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 9; (ii) encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 9 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, 10% SDS; and washing at 65°C in a solution comprising 0.2X SCC and 0.1% SDS, or (iii) a T1R3 polypeptide possessing at least 90% sequence identity to the T1R3 polypeptide of SEQ. ID. NO: 7;

and wherein said heteromeric receptor comprised of at least one T1R2 polypeptide and at least one T1R3 polypeptide specifically binds to a ligand that specifically binds to an endogenous (wild-type) human heteromeric T1R2/T1R3 receptor.

195. (Previously presented) The isolated heteromeric receptor of claim 194, which is expressed by a recombinant host cell that contains T1R2 and T1R3 nucleic acid coding sequences.

196. (Canceled)

197. (Canceled)

198. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 and T1R3 polypeptide are of the same species origin.

199. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 polypeptide has the sequence of SEQ. ID. NO: 6.

200. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 receptor polypeptide has a sequence that possesses at least 90% sequence identity to the polypeptide of SEQ. ID. NO: 6.

201. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 receptor polypeptide has an amino acid sequence that possesses at least 95% sequence identity to the polypeptide of SEQ. ID. NO: 6.

202. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 receptor polypeptide has an amino acid sequence that possesses at least 96% sequence identity to the polypeptide of SEQ. ID. NO: 6.

203. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 receptor polypeptide has an amino acid sequence identity that possesses at least 97% sequence to the polypeptide of SEQ. ID. NO: 6.

204. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 receptor polypeptide has an amino acid sequence that possesses at least 98% sequence identity to the polypeptide of SEQ. ID. NO: 6.

205. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 receptor polypeptide has an amino acid sequence that possesses at least 99% sequence identity to the polypeptide of SEQ. ID. NO: 6.

206. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 polypeptide is encoded by the nucleic acid sequence of SEQ. ID. NO: 10.

207. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R2 polypeptide is encoded by the nucleic acid sequence that hybridizes to SEQ. ID. NO: 10 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS.

208. (Canceled)

209. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 is a human T1R3 polypeptide having the sequence of SEQ. ID. NO: 7.

210. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 90% sequence identity to the polypeptide of SEQ. ID. NO: 7.

211. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 95% sequence identity to the polypeptide of SEQ. ID. NO: 7.

212. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 96% sequence identity to the polypeptide of SEQ. ID. NO: 7.

213. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 97% sequence identity to the polypeptide of SEQ. ID. NO: 7.

214. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 98% sequence identity to the polypeptide of SEQ. ID. NO: 7.

215. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide having at least 99% sequence identity to the polypeptide of SEQ. ID. NO: 7.

216. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is encoded by the nucleic acid sequence of SEQ. ID. NO: 9.

217. (Previously presented) The isolated heteromeric receptor of claim 194, wherein said T1R3 polypeptide is encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 9 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS.

218. (Previously presented) The isolated heteromeric receptor of claim 194 which is expressed by a recombinant host cell.

219. (Previously presented) The isolated heteromeric receptor of claim 218, wherein said cell is a mammalian, yeast, insect or amphibian cell.

220. (Previously presented) A membrane extract comprising said heteromeric receptor of claim 194.

221. (Previously presented) A lipid bilayer comprising said heteromeric receptor of claim 194.

222. (Previously presented) The isolated heteromeric receptor of claim 194 which is immobilized on a solid phase.

223. (Previously presented) The isolated heteromeric receptor of claim 194 which is attached to a detectable label.

224. (Previously presented) The isolated heteromeric receptor of claim 223, wherein said label is an enzyme, radionuclide, fluorophore or chemiluminescent compound.

225. (Previously presented) The isolated heteromeric receptor of claim 194 which further comprises a G protein.

226. (Previously presented) The isolated heteromeric receptor of claim 225, wherein said G protein is G_{α15}, G_{α16} or transducin.

227. (Previously presented) The isolated heteromeric receptor of claim 194 which is bound to an antibody.

228. (Previously presented) The isolated heteromeric receptor of claim 194 which is in solution.

229. (Previously presented) The isolated heteromeric receptor of claim 194 wherein said T1R2 polypeptide comprises the amino acid sequence of SEQ. ID. NO: 6 and said T1R3 polypeptide comprises the sequence of SEQ. ID. NO. 7.

230-258. (Canceled)

259. (Previously presented) The isolated heteromeric receptor of claim 194 which is expressed by an endogenous taste cell.

260. (Previously presented) The isolated heteromeric receptor of claim 259, wherein the cell is a taste cell present in foliate, circumvallate or fungiform papillae.

261. (Previously presented) The isolated heteromeric receptor of claim 259, wherein the cell is a taste cell present in geschmackstreifen, oral cavity, gastrointestinal epithelium or epiglottis.

262. (Previously presented) The isolated heteromeric receptor of claim 261, wherein the cell is a taste cell present in gastrointestinal epithelium.